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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,737	03/12/2002	Kazuyuki Miya	L9289.02142	9707
24257	7590	11/02/2004	EXAMINER	
STEVENS DAVIS MILLER & MOSHER, LLP			BEAMER, TEMICA M	
1615 L STREET, NW			ART UNIT	
SUITE 850			PAPER NUMBER	
WASHINGTON, DC 20036			2681	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/070,737	Applicant(s) MIYA, KAZUYUKI	
	Examiner Temica M. Beamer	Art Unit 2681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 4-6, 9 and 10 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 4 is objected to because of the following informalities: In line 4, "the slots" should read --slots--. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Sudo, U.S. Patent No. 6,625,111.

Regarding claims 1, 7 and 8, Sudo discloses phase rotation detecting means for separately, detecting a frequency offset component and a fading fluctuation component of a phase rotation from a known signal included in a received signal; and channel estimating means for carrying out channel estimation using said frequency offset component and said fading fluctuation component of the phase rotation (col. 3, line 61- col. 4, line 16).

Regarding claim 2, Sudo discloses the channel estimating apparatus according to claim 1, further comprising a first phase rotation correcting means for carrying out a phase rotation correction of a slot unit using the frequency offset component of the phase rotation (col. 4, lines 1-16).

Regarding claim 3, Sudo discloses the channel estimating apparatus according to claim 1, further comprising a second phase rotation correcting means for carrying out a phase rotation correction of a symbol unit using the frequency offset component of the phase rotation (col. 3, lines 60-65).

Allowable Subject Matter

4. Claims 4-6, 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Regarding claim 3, prior art fails to suggest or render obvious

Regarding claim 4, prior art fails to suggest or render obvious a channel estimating apparatus comprising weight factor calculating means for calculating a weight factor which is used to carry out a weighting addition among the slots in a channel estimation using the fading fluctuation component of the phase rotation.

Regarding claims 5 and 6, they are indicated allowable based its dependence from allowable claim 4.

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Regarding claim 9, prior art fails to suggest or render obvious a channel estimating method further comprising a first phase rotation correction step of carrying out a phase rotation correction of a symbol unit using said frequency offset component of the phase rotation; and a second phase rotation correction step of carrying out a phase rotation correction of a slot unit using said frequency offset component of the phase rotation.

Regarding claim 10, prior art fails to suggest or render obvious a channel estimating further comprising a weight factor calculating step of calculating a weight factor which is used to carry out a weight addition among the slots in the received signal using the fading fluctuation component of the phase rotation.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nagayasu et al, U.S. Patent No. 6,347,126. Brardjanian et al, U.S. Patent No. 6,590,945.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Temica M. Beamer whose telephone number is (703) 306-5837. The examiner can normally be reached on Monday-Thursday (alternate Fridays) 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Temica M. Beamer
Examiner
Art Unit 2681

October 31, 2004

A handwritten signature in black ink that reads "Temica M. Beamer". The signature is written in a cursive style with a large, stylized initial "T" and "M".